APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,147	01/16/2002	Zhiwei Ying	42390.P10423	1044

			EXAMINER
7590	03/06/2006		VO, HUYEN X

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ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/052,147	YING ET AL.
	Examiner	**Art Unit**	
	Huyen X. Vo	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _28 December 0205_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-5,8-10,12-15,17-20,22,23,25 and 26_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-5,8-10,12-15,17-20,22,23,25 and 26_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _16 January 2002_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant has submitted an amendment, filed 12/28/2005, amending to base

claims to further include subject matters of dependent claims that were previously

objected for containing allowable subject matters in dependent claims. Upon further

consideration of the prior art of record, the objection to allowable subject matters

contained in dependent claims is now withdrawn. A new ground of rejection is made in

view of Yamaguchi (US 5479563).

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-5, 8-10, 12-15, 17-20, 22-23, and 25-26 are rejected under 35 U.S.C.

103(a) as being unpatentable over Chen et al. (IEEE Publication, incorporated by

reference) in view of Yamaguchi (US 5479563).

4.   Regarding claims 1, 10, 14, 19, and 23, Chen et al. disclose a method and

machine-readable medium, comprising: in response to a text sentence comprising a

plurality of words, each having a part of speech (POS) tag, generating a POS sequence

based on the POS tag of each of the plurality of words (*POS provided at input to RNN in figure 3 page 229*); detecting a prosodic phrase break through a recurrent neural network (RNN) based on the POS sequence, through iterative operations (*the operation of figure 3*) including retrieving a POS tag from the tag sequence (*POS provided at input of the RNN in figure 3*), inputting the POS tag to the RNN (*POS provided at input of the RNN in figure 3*), including initializing and inputting a first initial phrase break to a first input of the RNN network (*provided at input of the RNN in figure 3*); initializing and inputting a first initial POS tag to a second input of the RNN network (*provided at input of the RNN in figure 3*); initializing and inputting a second initial phrase break to a third input of the RNN network (*provided at input of the RNN in figure 3*); inputting the first POS tag of the tag sequence to a fourth input of the RNN network (*provided at input of the RNN in figure 3*); and inputting the second POS tag of the tag sequence to a fifth input of the RNN network (*provided at input of the RNN in figure 3*), generating an output phrase break associated with the POS tag, from the RNN network (*output of the RNN in figure 3*); retrieving a next POS tag from the tag sequence (*the operation of figure 3 is repeated for other POS*); and repeating inputting the POS tag, generating an output phrase break, and retrieving a next POS tag, until there are no more POS tags to be processed in the tag sequence (*the operation of figure 3 is repeated for other POS*).

Chen et al. fail to specifically disclose the step of receiving a text message comprising a plurality of words, each of the plurality of words having a part of speech (POS) tag and a text-processing unit for generating a POS sequence based on the POS tag of each of the plurality of words. However, Yamaguchi teaches the step of receiving

a text message comprising a plurality of words, each of the plurality of words having a

part of speech (POS) tag (*elements 4, 12, and 21 in figure 8*); and a text-processing unit

for generating a POS sequence based on the POS tag of each of the plurality of words

(*elements 4, 12, and 21 in figure 8*).

  Since Chen et al. and Yamaguchi are analogous art because they are from the

same field of endeavors, it would have been obvious to one of ordinary skill in the art at

the time of invention to modify Chen et al. by incorporating the teaching of Yamaguchi

et al. in order to classify input text into different syntactic categories for further

appropriate processing by the RNN.

5. Regarding claims 2-5, 15, and 20, Chen et al. fail to specifically disclose the

method of claim 1, further comprising: assigning a POS tag for each of the plurality of

words of the sentence; and classifying the POS tag for each of the plurality of words to

a predetermined class, wherein the classification of the POS tag comprises adjective,

adverb, noun, verb, and number, wherein the classification of the POS tag further

comprises quantifier, preposition, conjunction, idiom, and punctuation, and segmenting

the sentence into the plurality of words. However, Yamaguchi teaches the steps of

assigning a POS tag for each of the plurality of words of the sentence (*the operation of

figure 8, elements, 4, 12, and 21*); and classifying the POS tag for each of the plurality

of words to a predetermined class (*the operation of figure 8, elements, 4, 12, and 21*),

wherein the classification of the POS tag comprises adjective, adverb, noun, verb, and

number (*the operation of figure 8, elements, 4, 12, and 21*), wherein the classification of

the POS tag further comprises quantifier, preposition, conjunction, idiom, and

punctuation (*the operation of figure 8, elements, 4, 12, and 21*), and segmenting the

sentence into the plurality of words (*the operation of figure 8, elements, 4, 12, and 21*).

Since Chen et al. and Yamaguchi are analogous art because they are from the

same field of endeavors, it would have been obvious to one of ordinary skill in the art at

the time of invention to modify Chen et al. by incorporating the teaching of Yamaguchi

et al. in order to classify input text into different syntactic categories for further

appropriate processing by the RNN.

6.   Regarding claims 8-9, 12-13, 17-18, 22, and 25-26, Chen et al. further disclose

the method of claims 1, 10, 19, and 23 respectively, further comprising: inputting the

second initial phrase break to the first input of the RNN network (*provided at the input of

the RNN in figure 3*); inputting the first POS tag of the tag sequence to the second input

of the RNN network (*provided at the input of the RNN in figure 3*); inputting the output

phrase break, previously generated through the RNN network, to the third input of the

RNN network (*recursive features in the RNN in figure 3*); inputting the second POS tag

of the tag sequence to the fourth input of the RNN network (*provided at the input of the

RNN in figure 3*); inputting the next POS tag from the tag sequence to the fifth input of

the RNN network (*provided at the input of the RNN in figure 3*); and generating a next

phrase break associated with the next POS tag through the RNN network (*the operation

of figure 3*), and wherein the phrase break is generated based on the previously

inputted POS tags and previously generated phrase breaks, through the RNN network

(*recursive features in the RNN in figure 3*).

Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Karaali et al. (US 6182028) method for disambiguating POS that

is considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631.

The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER

HXV   2/28/2006